

Amendments to the Claims:

1) (Currently amended) An apparatus for measuring the axial length of an eye of a patient comprising

an ultrasound measuring device comprising a probe and a piezoelectric device for generating ultrasound for interrogating the dimensions of the eye and a computer for processing the interrogated dimensions, the probe being configured for directing [[the]] focused ultrasound waves of the ultrasound measuring device along the visual axis into the eye,

means for stabilizing the ultrasound measuring device in relation to the patient,

means for mounting a laser and the ultrasound probe on a carrying platform,

means for projecting from the laser a laser spot onto a grid so that the projected laser beam axis is substantially coaxial with the interrogating axis of said ultrasound measuring device, and

means for assuring correct pressure applied to the ultrasound probe as it contacts the eye.

2) (Previously presented) The apparatus of claim 1 wherein the means for stabilizing the ultrasound measuring device in relation to the patient comprises a standard headpiece to which attaches a platform which stabilizes the probe with respect to the patient's head and eye.

3) (Previously presented) The apparatus of claim 1 wherein the means for projecting a laser spot onto a grid comprises a laser beam projection device for alignment of the eye during the measurement procedure.

4) (Previously presented) The apparatus of claim 1 wherein the means for assuring correct pressure applied to the ultrasound probe as it contacts the eye comprises independently moveable joints designed to bring the ultrasound measuring device into direct contact with the eye and maintain a stationary relationship without additional manual assistance.

5) (Previously presented) The apparatus of claim 1 wherein the means for assuring correct pressure applied to the ultrasound probe as it contacts the eye comprises a gravity dependent swing arm that applies a constant and adjustable force to the eye throughout the ultrasound measuring process.

- 6) (Previously presented) The apparatus of claim 5 further comprising means for assuring the correct horizontal and vertical alignment of said ultrasound probe with relation to the gravitational field of the earth.
- 7) (Currently amended) The apparatus of claim 2 further comprising (i) a carrying platform attached to a swing arm that carries the ultrasound probe, wherein the means for projecting a laser spot onto a grid comprises a laser beam projection device for alignment of the eye during the measurement procedure, and (ii) means for assuring the correct horizontal and vertical alignment of said ultrasound probe with relation to the gravitational field of the earth.
- 8) (Previously presented) The apparatus of claim 7 further comprising a laser beam projection device that is projected onto a grid which is used as a fixation target.
- 9) (Previously presented) A process of measuring the axial length of a patient's eye including the steps of: (a) administering one or more anesthetic drops; (b) fitting a headpiece on the patient; (c) aligning an ultrasound probe tip over the eye to be measured while reflecting a laser beam on a visual reference in the patient field of vision, the laser beam axis being substantially coaxial with an interrogating axis of ultrasound waves emitting from the ultrasound probe; (d) as needed, modifying the position of a swing arm to assure proper pressure is applied by the ultrasound probe tip during measurement; (e) as needed, modifying the position of a carrying platform to assure proper horizontal and vertical alignment of the interrogating axis from the ultrasound probe tip during measurement; (f) confirming by direct observation of the contact point between the ultrasound probe and the cornea that the correct pressure is being applied to the cornea during measurement; and (g) measuring the axial length of said eye with ultrasound upon contact with the eye.
- 10) (Previously presented) The apparatus of claim 6, wherein the means for assuring the correct horizontal and vertical alignment of said ultrasound probe with relation to the gravitational field of the earth comprises a bubble level.

11) (Previously presented) The apparatus of claim 7, wherein the means for assuring the correct horizontal and vertical alignment of said ultrasound probe with relation to the gravitational field of the earth comprises a bubble level.